

Microzine[®]

The Learning Library on Disk

39

The Stars of the Harlem Renaissance • Reading/Social Studies

Exploring the Earth's Tilt • Earth Science

Math Mall • Weights & Measures

The Case of the Baffled Baker • Problem Solving/Visual Discrimination

Apple® II family; 128K;
5.25-inch disk drive;
printer optional

 SCHOLASTIC

Ages 9 and up

Microzine®

Student Handbook and Teacher's Guide

39

The Stars of the Harlem Renaissance • Reading/Social Studies

Exploring the Earth's Tilt • Earth Science

Math Mall • Weights and Measures

The Case of the Baffled Baker • Problem Solving/Visual Discrimination

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CONTENTS

Student Handbook

Getting Started	5
Equipment You Need	5
Making Legal Copies of <i>Microzine</i>	5
Loading the Apple Version of <i>Microzine</i>	7
Loading the MS-DOS Version of <i>Microzine</i>	7
The <i>Microzine</i> Guide	9
Troubleshooter	10
<i>The Stars of the Harlem Renaissance: A Twistaplot® Adventure</i>	11
<i>Exploring the Earth's Tilt: A Science Simulation</i>	15
<i>Math Mall: A Math Feature</i>	18
<i>The Case of the Baffled Baker: A Monitor Mystery Feature</i>	22
<i>Computer Stuff: A Utility</i>	25

Teacher's Guide

<i>Microzine</i> Scope and Sequence Chart	27
<i>The Stars of the Harlem Renaissance</i> Lesson Plans	28
<i>Exploring the Earth's Tilt</i> Lesson Plans	33
<i>Math Mall</i> Lesson Plans	39
<i>The Case of the Baffled Baker</i> Lesson Plans	43
Monitor Mystery Detective Diploma	45

Microzine
39

STUDENT HANDBOOK

Getting Started

Equipment You Need

APPLE COMPUTERS

1. Monitor or TV
2. 128K Apple® IIe, IIc, IIc Plus, or IIGS
3. Disk drive

MS-DOS COMPUTERS

1. Monitor or TV
2. 256K IBM® with a Color Graphics Adapter (CGA), Tandy® 1000, or any true compatible
3. Disk drive
4. Disk Operating System (DOS), version 2.0 or higher

Making Legal Copies of *Microzine*

The disks in this package are fully protected by copyright law. It is against the law to copy or in any way duplicate these disks or any portion of the program except under the terms expressly stated in these instructions and in Scholastic's Software License and Warranty Agreement.

The disks included in the *Microzine* package are Archival disks. Follow the instructions for using the Archival disks to make Legal Copies. For a complete description of your rights and responsibilities in copying disks and using the program, see the Scholastic Software License and Warranty Agreement included in your *Microzine* package.

You must make a Legal Copy of each Archival disk. You may not use the Archival disks for running the program. Use the Legal Copies instead.

To make Legal Copies of the Archival disks, follow these instructions:

1. Use any standard copy program or function to copy the entire contents of each Archival disk onto one blank formatted disk. If you are copying the Apple version of the program, use the Copy a Disk function of your ProDOS® System Disk or a commercial disk copying program. If you are copying the MS-DOS® version of the program, use the DOS DISKCOPY command or a commercial disk copying program.

NOTE: Be sure to copy the complete contents of each disk. If the label on the Archival disk indicates that it is double-sided, be sure to copy both sides. Do not change any directory or file names.

2. Your package includes Legal Copy disk labels. Use a soft-tipped marker to write the serial number from the enclosed Software License and Warranty Agreement in the space provided on each disk label.
3. Affix the appropriate Legal Copy disk label to each of the copies that you created in Step 1.
4. Store the Archival disks in a safe place with a copy of the Software License and Warranty Agreement.

If a Legal Copy becomes damaged or defective, first try recopying the program from the Archival disk to the Legal Copy disk. If the program still does not work, the Legal Copy disk medium itself may be defective. In this case, copy the program from the Archival disk to another disk as a temporary Legal Copy. Then send the defective Legal Copy disk to Scholastic at the following address for a free replacement. When you receive the replacement, erase the temporary Legal Copy that you made.

If an Archival disk is damaged or defective, send it to Scholastic at the following address for a free replacement:

Scholastic Software
Scholastic Inc.
P.O. Box 7502
2391 E. McCarty St.
Jefferson City, MO 65102

In Canada:
Software from Scholastic
123 Newkirk Rd.
Richmond Hill, Ontario
Canada L4C 3G5

In Australia:
Ashton Scholastic Software
P.O. Box 579
Gosford, N.S.W. 2250
Australia

Loading the Apple Version of *Microzine*

1. Open the disk drive door.
2. Hold the disk with the label end facing you.
3. If you have a 3.5-inch disk, insert the disk slowly with the label facing up. If you have a 5.25-inch disk and the program you want is on Side 1 of the disk, insert the disk slowly with the label facing up. If the program you want is on Side 2 of the disk, insert the disk slowly with the label facing down.
4. Close the drive door.
5. Turn on the computer and monitor (or TV).

NOTE: *Never remove or insert a disk while the disk drive's red light is on.*

Loading the MS-DOS Version of *Microzine*

You must load DOS into your computer before you can load *Microzine*.

1. If you have a hard drive, turn on the computer. If you have DOS on a 5.25- or a 3.5-inch disk, open the drive door and insert the disk. Turn on the computer.

2. You will see a DOS prompt. The prompt will be a letter followed by a greater-than sign (A>, for example). The letter of the prompt indicates the disk drive being accessed by the computer.
3. If you want to load *Microzine* in the drive that corresponds with the letter of the prompt (for example, if the DOS prompt is A> and you want to load *Microzine* into the A drive), put the *Microzine* disk in that drive.

If you want to load *Microzine* in a drive that is different from the drive indicated by the DOS prompt (for example, the prompt is A> and you want to load *Microzine* into the B drive), type the letter of the drive you want and a colon, then press Enter (for example, B:, then Enter). You will see a new DOS prompt (for example, B>). Put the *Microzine* disk in the drive.

LOADING THE PROGRAMS

Choose a program you want to load. Find the disk with that program's name on the label. Type these commands to load the *Microzine* programs:

The *Microzine* Guide: Type MZ and then press Enter.

The Stars of the Harlem Renaissance: Type TSOTHR and then press Enter.

Exploring the Earth's Tilt: Type ETET and then press Enter.

Math Mall: Type MM and then press Enter.

The Case of the Baffled Baker: Type TCOTBB and then press Enter.

If the *Microzine* program you want does not appear on the screen, read the instructions once more, and try again.

NOTE: In both the Apple and MS-DOS versions of *Microzine* you may load the *Microzine* programs from within the *Microzine Guide*. Choose "PROGRAMS" and then choose the *Microzine* program you want to load. Choose the option "Start the Program" and then press Enter.

The *Microzine* Guide

There are six features in the *Microzine* Guide. They are Programs, Computer Stuff, Credits, Letters, Hand, and Exit. The features are listed in a collection of boxes on the screen. Each box is labeled.

Use the arrow keys to move the Hand icon to the box that describes what you want to do. For example, to read the Credits, use the Hand to point to the box labeled "Credits," and then press Return or Enter.

PROGRAMS

Use the Hand to point to Programs on the *Microzine* Guide, then press Return or Enter to read a description of the programs in this issue of *Microzine* or to load a program from this issue of *Microzine*.

COMPUTER STUFF

Use the Hand to point to Computer Stuff on the *Microzine* Guide, then press Return or Enter to see a list of the functions in Computer Stuff. See Computer Stuff, page 25.

CREDITS

Use the Hand to point to Credits on the *Microzine* Guide then press Return or Enter to see the credits for this issue of *Microzine*.

LETTERS

Use the Hand to point to Letters on the *Microzine* Guide, then press Return or Enter to read letters from the *Microzine* Editor and *Microzine* readers.

HAND TUTORIAL

Use the Hand to point to the Hand Tutorial on the *Microzine* Guide, (or press ?) then press Return or Enter to learn how to use the *Microzine* Hand.

EXIT

Use the Hand to point to Exit on the *Microzine* Guide, then press Return or Enter to quit using *Microzine*.

Troubleshooter

We have included this section in the *Microzine* Handbook to help you if you run into problems using *Microzine*. Each *Microzine* program is documented in the handbook, and specific hints for using the program are included there; however, we occasionally receive calls about more general problems:

LOADING MICROZINE

If *Microzine* does not appear on the screen, turn off the computer. Then turn it back on and try again. Make sure the disk drive door is closed, and check to see that the disk drive is hooked up correctly.

APPLE IIc PLUS

Microzine programs run most effectively when the Apple IIc Plus is running in slow mode, rather than fast mode. Put the *Microzine* disk in the drive. Hold down the Open Apple key, the Control key, the Reset key, and the Esc key simultaneously, then release all four keys. The computer will reboot the *Microzine* program in slow mode.

THE STARS OF THE HARLEM RENAISSANCE

**A Twistaplot®
Adventure**



Ms. Redbetter, your teacher, has announced a contest! She'll give you one line from a poem by Langston Hughes, the famous poet who lived and wrote in Harlem, New York during the 1920s. To win the contest you've got to find the lines to the poem and the poem's title, and then write a poem of your own. Just when you think you'll never win the contest, you're miraculously sent back in time to 1926 Harlem — to the period of time called the Harlem Renaissance. Now you'll be able to ask Hughes himself to help you out.

What You Will Find

You'll meet Hughes and many of his famous friends who lived in Harlem in the 1920s. These black writers, artists, musicians, actors, and journalists created an excitement and energy that was known all over the world. If you answer their questions, they'll give you lines to Hughes' poem and help you to find Hughes himself. Hughes will tell you the title to his poem, and help you write a poem of your own.

Walking Around Harlem

Use the arrow keys to walk from one place to another. Press Return or Enter to enter a building or area.

- ↑ to walk up, or north
- ↓ to walk down, or south
- to walk right, or east
- ← to walk left, or west

The Stars of the Harlem Renaissance Book

The Stars of the Harlem Renaissance book contains information about Langston Hughes and the other people you'll meet while playing the Twistaplot. These people will ask you questions about themselves. Use the book to answer their questions.

To use the book, type **BOOK** and press Return or Enter.

The program will ask you if you want to **READ** about a person or **SEARCH** the book for a word or phrase. Type **READ** or **SEARCH**, then press Return or Enter.

READ: Choose **READ** to read a short biography about a person. The program will display a list of people about whom you may read. Use the ↑ and ↓ keys to highlight your choice, then press Return or Enter to read about the person you chose. Use the arrow keys to read the next entry, or press Esc to back up.

SEARCH: Choose **SEARCH** to search the book for a word or phrase. Enter the text for which you would like to search, then press Return or Enter. The program will display a list of the people in whose biographies the text you typed is found. Use the ↑ and ↓ keys to highlight your choice, then press Return or Enter.

Notebook

The people you meet will give you lines to Langston Hughes' poem. Use the notebook to save all the lines to Hughes' poem and to read the poem. Whenever someone tells you some lines to the poem, type **NOTES**, and press Return or Enter. The program will then ask you if you want to save something in your notebook or read something you've already saved. To save the poem lines that someone has given you, type **SAVE**. The program will save those lines for you in your notebook.

To read the poem lines you've already saved, type **READ**. When you've finished reading the poem, press Return or Enter to return to the story.

Writing Your Poem

At the end of your adventure, you will meet Langston Hughes and find out the title of the poem you have saved in your Notebook. You will then get the chance to write your own poem. Type the words to your poem in the spaces provided on the poem-writing screen. Use Delete or Backspace to erase errors. Use the ↑ and ↓ keys to move among the lines in the poem. Press Esc when you are finished.

Printing Your Poem

When you have finished writing your poem, the program will ask you if you want to print it. Type **Y** for Yes or **N** for No, then press Return or Enter. If you choose to print your poem, and you are using an Apple computer, the program will ask you if your printer needs line feeds. Type **Y** for yes or **N** for no, then press Return or Enter. Next, make sure your printer is turned on and is connected to your computer. Press Return or Enter to print your poem. Press Esc to cancel the printing.

After you print your poem, the program will ask you if you want to print the Hughes poem that you have in your Notebook. Press **Y** for yes, or **N** for no, then press Return or Enter. If you press **Y**, the program will then print the poem.

Three Versions

There are three versions of *The Stars of the Harlem Renaissance*. In each version Ms. Redbetter will give you a line to a different Langston Hughes poem.

When you finish the story, Langston Hughes will give you a souvenir. When you play *The Stars of the Harlem Renaissance* again, type the souvenir that Langston Hughes gave you. The program will then give you a different version of the game to play.

Password

If you want to stop reading the story and continue *The Stars of the Harlem Renaissance* another time, press Esc. The program will ask you to type a password. Remember it! Then, when you play *The Stars of the Harlem Renaissance* again, you may enter your password and continue your adventure from the place you left off.

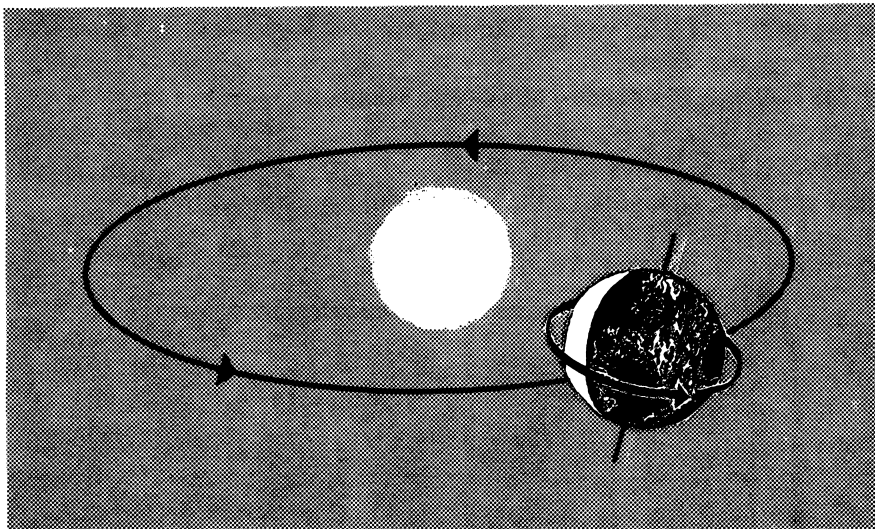
Helpful Hints

Here are a few hints to help you play *The Stars of the Harlem Renaissance*:

- Pay attention when the people you meet suggest a place where you might find Langston Hughes. Even if Hughes isn't there, you might find someone else worth meeting.
- Be sure to save all the lines to the poem in your notebook. You never know who'll ask to see it.

EXPLORING THE EARTH'S TILT

A Science Simulation



What You Will Find

The earth is tilted, and that's why we have seasons. In this program, you can ask and answer questions such as: What if the earth did not tilt? What if the earth tilted more than it does now? What if the earth tilted the same amount, but in the opposite direction? The program will show you the different seasons in Chicago, Illinois. Then you can experiment to see how they might change if the tilt of the earth were different.

Look at Chicago's Seasons

The program will ask you if you want to look at Chicago's real seasons. Press **Y** for yes or **N** for no.

If you choose to look at the seasons, the program will show you one month in each of the four seasons. Choose a month. Press Space Bar to highlight your choice, then press Return or Enter.

The program will then show you what the weather is like during that month. It will also tell you the season in which the month falls.

Continue choosing months until you're familiar with all of Chicago's seasons.





Form Your Hypothesis

The program will ask, "Do you think a different tilt would change the seasons?" Type Y for yes or N for no.

Press S to see an overview of Chicago's seasons.

Choose a Tilt for the Earth

Now choose a tilt for the earth to see if your hypothesis is right. You may choose No Tilt, More Tilt, Other Way, or On Side. Press Space Bar to highlight your choice. Then press Return.

TILT	
 NO TILT	 MORE TILT
 OTHER WAY	 ON SIDE

Choose a tilt for the Earth.

.....
Press Space Bar to highlight your choice.
Then press Return.
Press ? for help. Press ESC to quit.

Choose a Month

Once you have chosen a tilt for the earth you can choose a month from each season to see if the weather has changed. You may choose to look at January, April, July, and October. Press Space Bar to highlight your choice, then press Return.

The program will show you the month's weather with the tilt you chose. It will then ask you to mark the temperature on the thermometer it shows you. Press the Space Bar to mark the temperature on the thermometer. Press Return when you are finished. Press → to see your results.

Continue choosing months until you've checked the weather in all four seasons for the tilt you selected.

Evaluating Your Hypothesis

The program will remind you of your hypothesis and ask if you were right. Use the Space Bar to select Yes, No, or I Cannot Tell, then press Return.

MATH MALL

A Math Feature



What You Will Find

You will work in a mall where customers shop for milk, steak, and ribbon. In Cookie's Milk Shop the customers will ask for milk in cups, pints, quarts, and gallons. At Claim Your Steak customers will ask for steaks in pounds and ounces. At Adam's Ribbon, customers will ask for ribbon in lengths of feet and inches.

In each shop you'll use different combinations of weights and measures to fill the customers' orders.

How the Game Works

You are in charge of all the shops in the *Math Mall*. It's a busy mall, with a steady flow of new customers. Since you're the only salesperson, you must try to serve as many customers as you can in each shop. You must work quickly to avoid losing customers. If too many customers are kept waiting in a store they will leave the mall.

You may enter Cookie's Milk Shop, Claim Your Steak, or Adam's Ribbon.



Customers Served

At the top left corner of the screen you will see how many customers you have served in the *Math Mall*.

Customers Lost

At the top right corner of the screen, you will see how many customers have left the *Math Mall* since the game began.

Moving in the *Math Mall*

Use the → and ← arrow keys to walk between the shops.

Entering a Shop

To enter a shop in the *Math Mall*, walk to the shop door and press Space Bar.

When you enter a shop for the first time, you will have two options. You may press I to read the instructions or S to start working.

Press I to Read Instructions

Press **I** the first time you enter each shop. Read the on-screen instructions to learn how to fill customers' orders in that shop. Remember, each shop works differently.

Press S to Start Working

Press **S** to start working. Fill each customer's order as quickly as you can. Use the ←, →, ↑, & ↓ arrow keys to move the blinking arrow to choose among the different weights and measures in each shop.

Exiting a Shop

Press **Esc** to leave the shop in which you are working. The Mall screen will appear, and you may visit another shop.

Warning Messages

As you are working, customers will be entering and leaving the mall. When this happens, warning messages will appear on the screen and interrupt your sale. For example, when there are eight customers waiting at Adam's Ribbon, you will see the message, "CROWD ALERT: There are 8 customers waiting at Adam's Ribbon." The message will disappear as soon as you use the arrows, Return, or Enter.

You can go to the shop the warning message tells you about, or you can continue working where you are.

Ending the Game

Customers will leave the *Math Mall* when the shop they are waiting in becomes overcrowded. When the tenth customer enters a shop, all the customers in the shop will leave.

No matter how fast you work, some shops will eventually become overcrowded and you will lose customers. But don't worry. New customers will enter the mall. With so many customers to serve, there is always someone else who needs your help.

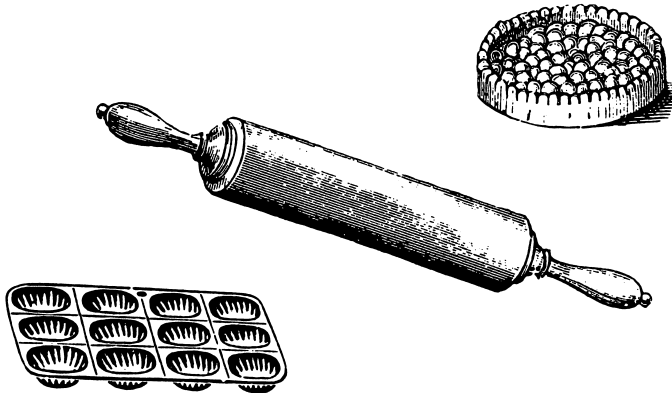
The game is over when 50 customers leave the *Math Mall*. The program will tell you how many customers you served in each shop.

Tips on Playing *Math Mall*

- Enter the most crowded shops first.
- If more than one shop has eight or more customers in line, enter the shop nearest you first. This way, you will save time walking around the mall. Every second counts!
- Serve at least a few of the customers in each shop. The first customers in each shop are the easiest ones to serve. Even if you only serve three customers, you will delay overcrowding. This will give you more time to work in the other shops.
- You will never lose customers from the shop in which you are working. You can take your time and serve all the customers in the shop.
- Use a pencil and paper to help you figure out how to serve the customers in each shop. This may slow you down at first, but it will be worth it. Once you learn how to work with different weights and measures, your work will become easier.

THE CASE OF THE BAFFLED BAKER

**A Monitor
Mystery Feature**



We at the *Microzine* Mystery Society used our powers of observation and logic to deduce that you would be playing the Monitor Mystery today. Last night one of our agents secretly turned your everyday computer into a Sherlock 221B Mystery-Solving Computer! Can the two of you work together to solve this case?

What You Will Find

You will read a Story, look at a Picture, and then answer Questions to solve *The Case of the Baffled Baker*.

Monitor Mystery MAIN MENU

Monitor Mystery has two functions, or things you may do. They are Instructions, and *The Case of the Baffled Baker*.

Choose Instructions to learn how to solve this Monitor Mystery.

Choose *The Case of the Baffled Baker* to play. The mystery is divided into three parts: the Story, the Picture, and the Questions.

The Story

Read the Story to learn the facts you will need to answer the Questions.

On the Story screens, you may type **P** to see the Picture or type **Q** to answer the Questions.

The Picture

Study the Picture and search it for clues. A magnifying glass will appear. Use the arrow keys to move the magnifying glass over every object in the picture, and then press Return or Enter. Clues will appear at the bottom of the screen.

On the Picture screen, you may type **S** to read the Story or type **Q** to answer the Questions.

The Questions

Answer the Questions to solve *The Case of the Baffled Baker*. Your 221B computer will tell you if all your answers are correct.

Your 221B computer will tell you if one or more of your answers is wrong. It will ask you to type in the number of the answer you want to change. When all your answers are correct, your 221B computer will ask you one final question.

On the Question screen, you may type **S** to read the Story or type **P** to see the Picture.

Final Question

Answer the final question to solve the mystery. If your answer is wrong, your 221B computer will ask you if you want to try to answer the final question again. Type **Y** for yes and **N** for no.

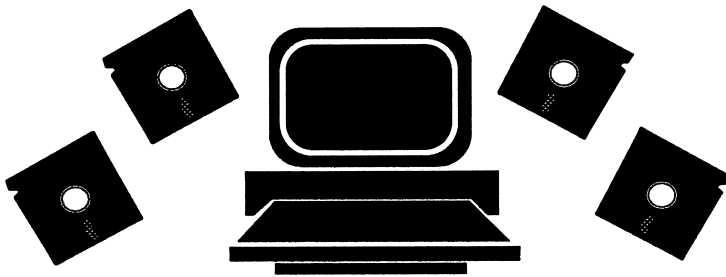
When you answer the final question correctly, your 221B computer will ask if you want to compare your answers with its answers. Type **Y** for yes and **N** for no.

***Microzine* Mystery Society Mystery-Solving Tips**

- A smart sleuth reads the Story carefully to learn all the facts.
- An inventive investigator checks each object in the Picture for clues.
- If the 221B computer says that at least one answer is wrong, a daring detective carefully reexamines each answer to make sure an “obviously” right answer is not, in fact, dead wrong!
- After answering the final question correctly, a magnificent mystery solver always compares deductions with the 221B computer to see how logical minds think alike.

COMPUTER STUFF

A Utility



What You Will Find

Choose *Computer Stuff* on The *Microzine* Guide to initialize a data disk.

A data disk is a blank disk (or one that you don't mind erasing) that has been initialized, or formatted. Initializing a disk gets it ready to save your data for *Microzine*.

Apple: To initialize a data disk, use the Hand to choose Initialize a Disk and then press Return. Follow the on-screen instructions.

The program will initialize the disk. Then the *Computer Stuff* list of functions will appear. You now have a data disk. You may use it for any *Microzine* feature that requires a data disk.

MS-DOS: Use any MS-DOS format utility to format or initialize a disk.

NOTE: Issues 1-26 of Microzine require a DOS 3.3 data disk. Beginning with Issue 27, each Issue of Microzine that requires a data disk will require a ProDOS data disk for Apple computers or an MS-DOS data disk for MS-DOS computers.

TEACHER'S GUIDE

MICROZINE **SCOPE & SEQUENCE CHART**

CRITICAL THINKING SKILLS

	THE STARS OF THE HARLEM RENAISSANCE	EXPLORING THE EARTH'S TILT	MATH MALL	THE CASE OF THE BAFFLED BAKER
Comparing/Classifying		•	•	•
Sequencing	•		•	
Analyzing	•	•	•	•
Inferring	•	•		•

CURRICULUM AREAS

Reading/Language Arts	•			•
Math/Problem Solving			•	
Science		•		
Social Studies	•			•

INFORMATION PROCESSING SKILLS

Word Processing/Publishing	•			
Database/Research	•			
Maps/Charts/Graphs	•	•		
Visual Discrimination		•		•

THE STARS OF THE HARLEM RENAISSANCE

Lesson Plans

Role-Playing, Researching, Writing, and Analyzing Poems for Critical Thinking

Vocabulary Preview: brownstone, endeavors, literary, quip, renaissance

Learning Objective: Students will be able to apply critical research, writing, and problem-solving strategies as they work in a collaborative learning environment.

Synopsis

Ms. Redbetter, your students' "teacher," announces a contest. She'll give students one line from a poem by Langston Hughes, the famous poet who lived and wrote in Harlem, New York during the 1920s. Students must then find all of the lines to Hughes' poem and the poem's title, and then write a poem of their own. To give students an interesting way in which to learn about Hughes and his poetry, the Twistaplot sends them back in time to 1926 — to the time of the Harlem Renaissance.

Students will meet Hughes and many of his famous friends who lived in Harlem in the 1920s. These black writers, artists, musicians, actors, and journalists created an excitement and energy that was known all over the world. If students answer their questions, they will give them lines to the poem and help them find Langston Hughes. Hughes will tell them the title to his poem, and help them write a poem of their own.

Lesson 1: Concurrent Activity

TEACHER INSTRUCTIONS

To complete this Twistaplot, students will have to read carefully, understand topical questions, research the answers, and use mapping skills to travel the streets of Harlem. They will also need to use metaphorical comparisons to translate feelings into poetic language when they finally write their own poem. These tasks can be simplified if students work as a team to get through the Twistaplot.

In the role-playing activity that follows, each team member will have a role that serves a specific problem-solving function.

Before beginning the Twistaplot, divide the students into groups of three. Assign each team member one of the following roles: A Chronicler, a Researcher, and a Map Maker. Write each role description on the blackboard and discuss it with the students.

Chronicler: This student will keep a written record of the journey by listing each location and the Harlem characters encountered there. If questions asked by the characters are incorrectly answered, the Chronicler should make note of this. The Chronicler can then work with the Researcher to find the correct information, which should be noted in writing for later use. Thus, the Chronicler will evaluate answers, analyze progress, and then help the team overcome obstacles.

Researcher: This student will consult *The Stars of the Harlem Renaissance* book to find information needed to answer the questions posed by the stars of the Harlem Renaissance. He or she can jot down the facts and then share them with the other students. If the question is incorrectly answered, the Researcher can gather information a second time and supply it to the Chronicler. It will be the task of the Researcher to distinguish between relevant and irrelevant information for a given question.

Map Maker: In this Twistaplot there are five different map screens through which students must travel. The Map Maker will be in charge of sketching the map each time the students reach new surroundings. The Map Maker will also pay special attention to the directions in which students can travel, and help guide them to find the specific addresses mentioned in the story. This student will keep track of addresses and of any interesting landmarks.

In addition to explaining the students' responsibilities, offer some specific examples of the ways in which each role relates directly to the Twistaplot. For example, you might say, "When you reach the YMCA and meet W.E.B. Dubois, the Researcher will look up some facts about Dubois in *The Stars of the Harlem Renaissance* book before you try to answer any of Dubois' questions." Have team members discuss the roles and ask questions about them if necessary. Team members will be working closely together, sharing other tasks as they progress through the Twistaplot.

When students finally find Hughes and the title to his poem, they will be challenged to write a poem with him. At this point, they can collaboratively choose a team member to suggest words for the poem. Before inputting the poem, they should write it down on paper. Team members should then discuss word changes, edit the poem, and input it. The critical thinking skills used to write poetry will be extended in the follow-up lesson below.

TEACHER TIPS

- Remind students about their goals as they perform their roles and move through the Twistaplot. They are not simply trying to find Hughes or the name of a poem; they are also learning about the atmosphere of Harlem at the time so that they can understand Hughes and his work. This understanding will help them to write their own Hughes-like poem at the end of their journey.

- Since there is such a variety of characters and information in this *Twistaplot*, students may find difficulty experiencing the Harlem Renaissance as a single phenomenon. It is important to stress the relationships between each character and Langston Hughes, and between the characters and the places they frequented.

Lesson 2: Follow-up Activity

TEACHER INSTRUCTIONS

The objective of this activity is to allow students to apply critical thinking skills to more poetry writing. They will use metaphors to make comparisons between images or situations and feelings.

Allow students to continue working in teams. Team members should first discuss a feeling they would like to portray in their poem. Is it Love, Pleasure, Boredom? Each can then make lists comparing the feeling to an image or situation by using the terms "is" or "is like." For example, if the poem is about boredom, they might write sentences that read, "Boredom is babysitting your little sister on a Saturday night," or "Boredom is like a gray room with no windows and no furniture." Finally, the team should work together to arrange all or some of the metaphorical comparisons into a poem.

TEACHER TIPS

- Since a poem translates individual, subjective feelings into words, some students may feel inclined to work on their own. Encourage these students to work alone and then to share their poems with the group or class.

Hints on playing *The Stars of the Harlem Renaissance*:

Harrison founded the LIBERTY LEAGUE, his best-selling book was WHEN AFRICA AWAKES, and he was born in the DANISH WEST INDIES.

Cullen helped edit OPPORTUNITY Magazine, attended NYU, and his first book was called COLOR.

Hughes called Dubois' THE SOULS OF BLACK FOLK the 'Bible.' Dubois headed the NAACP and edited THE CRISIS Magazine.

The Urban League published OPPORTUNITY Magazine. Hughes' poem THE WEARY BLUES won the prize. Johnson established OPPORTUNITY MAGAZINE PRIZES in 1925.

HAIR TONIC made a fortune for Walker and her mother. Walker's estate's name was LEWARO and her mother's name was MADAME C. J. WALKER.

Fauset was literary editor of THE CRISIS Magazine, graduated Phi Beta Kappa from CORNELL, and taught in WASHINGTON DC.

Henderson's hit song was SUGAR FOOT STOMP, his band was called the RAINBOW ORCHESTRA, and ETHEL WATERS sang in his first band.

Hurston's prize-winning story was SPUNK, she lived in EATONVILLE, FLORIDA, and had a Master's Degree in ANTHROPOLOGY.

White's best-selling book was THE FIRE IN THE FLINT, he headed the NAACP for J. W. Johnson, and earned the nickname NURSEMAID.

EXPLORING THE EARTH'S TILT

Lesson Plans

Understanding the Reasons for Seasons

Vocabulary Preview: axis, equator, hemisphere, hypothesis, parallel, perpendicular, refute, revolve, rotate, verify

Learning Objective: Students will use data collection and analysis skills to verify hypotheses about how variations in the earth's tilt affect seasonal temperature changes.

In *Exploring the Earth's Tilt*, students are placed in Chicago to test how the angle of the earth's tilt affects seasons. First, students form a hypothesis about the tilt and its relationship to temperature change. Then, they collect temperature data in simulations of winter, spring, summer, and fall under four separate conditions:

no tilt
more than normal tilt
titled the other way
tilted on side

From the data, students confirm or refute their hypotheses. By comparing and analyzing data, students should be able to make statements that explain how variations in the tilt will affect seasonal changes.

Using this program and the related activities, students will learn that:

- the distance between the earth and sun is not the reason for seasonal changes in temperature.
- the angle at which the sun's rays enter the earth's atmosphere is related to seasonal temperature change.
- the more directly the sun's rays enter the earth's atmosphere, the warmer the season will be.

Lesson 1: Warm-up Activity

TEACHER INSTRUCTIONS

Test your students' knowledge about the cause of seasons. Have a volunteer stand in front of the class to represent the sun. Then ask for two more volunteers: one to represent the northern hemisphere of the earth in June and the other to represent the northern hemisphere of the earth in December. Then ask, "Which will be further from the sun, the northern hemisphere in December or the northern hemisphere in June?" Have the two students position themselves away from the sun to illustrate where they think the earth should be. Most students believe that the sun is further from the northern hemisphere in December (hence, cold temperatures). In fact, the opposite is true!

Ask, "If the distance between the sun and earth is not the reason for seasonal changes, what is?" List students' suggestions on the board. Then have the class develop hypotheses for each suggestion. For example, if one suggestion deals with cloud cover, a hypothesis might be stated as: Increased cloud cover causes colder seasons.

TEACHER TIP

- If students are familiar with the process of developing hypotheses, have them develop hypotheses in small groups or individually.

Lesson 2: Concurrent Activity

While using the program, students test hypotheses made about the tilt of the earth and seasonal temperature changes. The following black line master will help students to collect and organize data provided by the program.

Before distributing the black line master (and before using the program), tell the students that the tilt of the earth has some relationship to seasonal changes. Ask, "What would happen if the earth wasn't tilted?" and have students suggest various consequences, but don't attempt to answer them.

SEASON TEMPERATURES IN CHICAGO

		Temperature				
	Hypothesis	JAN	APRIL	JULY	OCT	Confirm
No tilt						YES NO
More tilt						YES NO
Other way						YES NO
On side						YES NO

Distribute the black line master. Tell students they will collect data to help them answer questions about the earth's tilt and seasonal changes. Introduce the program and then have students collect data for each situation presented: no tilt, more than normal tilt, tilted the other way, tilted on side.

TEACHER TIP

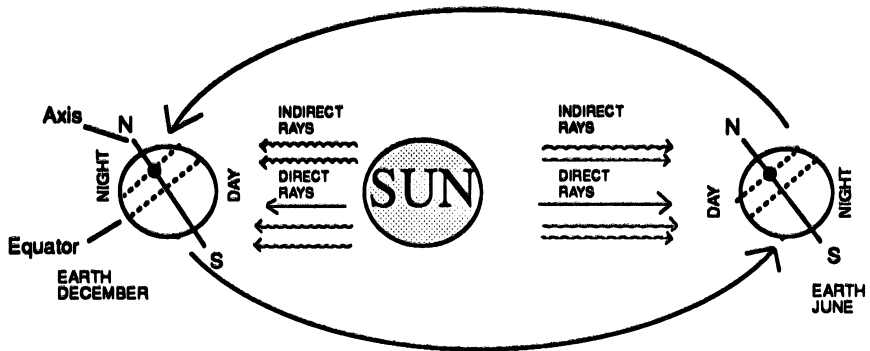
- To establish a pattern for using the program, complete the first row (no tilt) on the black line master as a group. Stress the importance of stating a hypothesis before collecting data. Make sure that students understand that data must be collected for every season before verifying or refuting the hypothesis. Summarize findings with the class at the end of the activity to check for any errors or misperceptions.

Lesson 3: Follow-up Activity

Understanding reasons for seasonal temperature change can be difficult for children due to the complex spatial concepts involved. The following step-by-step activity helps students to see why seasonal changes occur. Read the following directions aloud as you demonstrate each step. Have students perform the steps with you.

1. Take a piece of paper and fold it quarters. Open the paper. Using the fold marks as a guide, draw a circle in the center of the paper. This represents the sun.
2. To the left of the sun, draw a circle close to the sun on the horizontal fold line. Label it "Earth/December." To the right of the sun, draw another circle on the fold line—farther from the sun than the first—and label it "Earth/June." Draw an oval connecting the two models of the earth to represent the path on which it travels (revolves).
3. Draw the axis on both models of the earth. Make sure they slant slightly from the upper left to the lower right. Draw a dotted line perpendicular to the axis at the center of each model. These lines represent the equator. The equator separates the northern and southern hemispheres. Label the side facing the sun as "day" and the side away from the sun as "night."

4. Draw a dot on each model of the earth between the equator and the North Pole. This will represent Chicago. Draw a dashed line through the dot to parallel the equator.
5. Draw two lines on the fold, each one going from the sun to a model of the earth. Label these lines "direct rays."
6. Draw two or three lines above and below the "direct rays" on each side of the sun. Label these lines "indirect rays."



Guide students to see that the northern hemisphere receives direct rays from the sun in June, thus causing a warm season. How can they tell? The line that intersects with Chicago in the June diagram comes closer to the direct rays of the sun than the line in the December model. (Remind students that the earth rotates on the axis, so Chicago will follow the path drawn by the dotted line as the day progresses.) Indirect sun rays in December result in cold weather.

TEACHER TIPS

- It is important that students understand that the earth rotates on an axis (establishing a 24-hour day) as it revolves around the sun (establishing a 365-day year). If students are unclear about either concept, use a sphere (playground ball, globe, etc.) to illustrate these concepts in three-dimensional space. Then, point out the similarities to the diagram they have drawn.
- Check the students' understanding of the concept presented by asking several questions: Which hemisphere gets more direct rays in December? (southern) What season would it be in that hemisphere? (summer) What season is it in the northern hemisphere in June? (summer) Why? (The sun's rays are more direct.)

Weighing In With Weights and Measures

Vocabulary Preview: cups, equivalent, feet, gallons, inches, ounces, pints, pounds, quarts

Learning Objective: Students will be able to use estimating and problem-solving strategies to identify equivalent weights and measures.

In *Math Mall*, students will solve problems using equivalent weights and measures. The problems present students with a selection of measures and a “target” amount. Students must find the right combination of the given measures to equal the target amount. The problems require familiarity with standard units of measure for weight (pounds and ounces), length (feet and inches), and liquid measure (cups, pints, quarts, gallons). Students also must apply their knowledge of factors, be able to rename units in base-twelve, and develop appropriate problem-solving strategies.

Lesson 1: Warm-Up Activity

TEACHER INSTRUCTIONS

In *Cookie’s Milk Shop* students will need to add and rename different units of milk in order to come up with the target amount asked for by the customer. In the following activity students can practice the necessary skills of renaming units by working with units with which they are all familiar — units of money. Once they understand the strategies involved in unit renaming, students can use the strategies when working in *Cookie’s Milk Shop*.

First, place the following money amounts on your desk in jars clearly labeled with the amounts in each: one dollar bill, two fifty-cent pieces, four quarters, ten dimes, twenty nickels, one hundred pennies. Ask students to name other labels for each that would have the same value, for example, one hundred pennies is equal to twenty nickels, which is equal to ten dimes, etc. Lead them to understand that each jar could be labeled using any of the denominations and still equal the same thing.

Have a volunteer come to the desk. Ask the student to use the money in the jars to give you an amount of money equal to forty nickels. Tell students they can give you any combination that equals two dollars. Repeat this activity using different amounts of money until students can quickly rename money amounts.

TEACHER TIPS

- Your students should be able to solve the problems in Cookie's Milk Shop using mental math. Instruct them to convert the liquid amounts they are to select to the measure ordered. For example, if the order calls for cups of milk, students should think of the three pints as six cups and the five pints as 10 cups.
- Students may have more success in Cookie's Milk Shop if they have the equivalent measures written on a sheet of paper for quick reference.

Lesson 2: Warm-up Activity

TEACHER INSTRUCTIONS

At Claim Your Steak, students will need to figure out how many of a certain size steak will add up to the target weight asked for by the customer. Students will first need to figure out which steak's weight is a factor of the target weight. Students must then use their multiplication skills to determine the target weight. In the following activity students will practice the factoring and multiplication skills needed to work at Claim Your Steak.

Write the months of the year on the chalkboard, and assign each one a number value, with January equaling one, February two, and so on. Next, have students form groups according to their birth months. Have one student from the December group stand in front of the class as the "target" number. Have each group decide how many members from its group would "equal" the target student's number. For example, one December, two Junes, three Aprils, four Marches, six Februarys, or twelve Januaries equal one December. May, July, August, September, October, and November would not participate because their numbers are not factors of twelve.

Repeat the activity using different numbers of students from specific months as targets.

TEACHER TIPS

- At the first level in Claim Your Steak, students can use the process of elimination to quickly reduce the number of possible choices. Point out that if the order calls for an amount of steak where the numeral in the pounds place is less than the numeral in the ounces place, then all of the choices with numerals in the pounds place that are GREATER THAN the numeral in the ounces place may be eliminated, and vice versa. Once the obviously wrong choices are eliminated, students may look for choices that have numerals that are factors of the ordered amount.
- At the second level of Claim Your Steak, the problems are considerably more difficult, and the above strategy will not apply. Now students will be presented with ordered amounts that require them to first rename ounces to pounds. Instruct students to estimate an answer and then to use the “guess-and-check” method to solve the problem.

Lesson 3: Warm-up Activity

TEACHER INSTRUCTIONS

At Adam's Ribbon students will need to choose among different lengths of ribbon in order to find two lengths that add up to the target length ordered by the customer. In the following activity students can practice the skills of renaming and adding inches and feet. These skills will help them to work successfully at Adam's Ribbon.

Cut up slips of construction paper that are 1, 4, 6, 8, 10, 12, 16, 20, and 24 inches long. Clearly label each ruled slip with its length. Place a yardstick on your desk. Have students lay three or more of the ruled slips next to the yardstick in various combinations, and write the totals on the chalkboard.

After several combinations have been added and recorded, place all the ruled slips in a bowl or hat. Randomly select one of the total lengths written on the chalkboard and, one at a time, challenge students to find the correct ruled slips that will equal the total length selected. Repeat this activity until students can quickly find the correct combination of ruled slips. Discuss with students the critical estimating skills they are using to find the proper combinations. Explain how certain ruled slips may be eliminated immediately—for example, if a target length is less than two feet, the 24-inch strip cannot be used.

TEACHER TIPS

- As students work in Adam's Ribbon, for each order, instruct them to first look at the numeral in the inches place. Then tell them to find the two choices which have numerals in the inches place that add up to the first numeral.
- Make sure students understand that feet are computed in base-twelve. Point out that if an order has a zero in the inches place, the inches in the correct choices will add up to 12, not ten.

Home Activity

Ask students to “collect” as many containers that are units of measure as they can from things they find in their homes. The next day, make a list of the units of measure students found. Organize them according to what they measure — for example, liquids, weights, distances, etc.

Many measures students find will be metric measures. Have students refer to an almanac or textbook to find tables of equivalence for the metric measures. Discuss with students why many people prefer to use the metric system of measure. (Metric is in base-ten, and therefore simpler to compute when finding equivalent measures.)

THE CASE OF THE BAFFLED BAKER

**A Monitor
Mystery**

The Mystery of Mysteries

Vocabulary Preview: blunder, deftly, erupt, ingenious, rival, sabotage, vanish

Learning Objective: Students will be able to apply critical inference skills to solve a mystery.

Lesson: Warm-up Activity

TEACHER INSTRUCTIONS

When solving a Monitor Mystery, students must read for detail, evaluate clues found in a picture of the scene of the crime, determine the facts, and make inferences based on what they've read and seen in the picture to answer questions that will lead them to solve the mystery. This activity will give students the opportunity to practice the skills of discovering facts and making inferences that will help them to successfully complete *The Case of the Baffled Baker*.

Take any cardboard box and make a hole on one side wide enough for an arm to fit through to make a "mystery box." Place an object in the box and have one or two students feel the object and tell you facts about it. Write these facts on the chalkboard. After you have a list of facts about the object, have the class suggest inferences about the object that they can make from the list of facts.

For example, place a baseball in the box. Then list the facts and inferences:

Continue playing the game until your students are comfortable discerning inference from facts.

WE KNOW THE OBJECT IS:

- round
- hard
- smooth (except where it has stitching on it)
- approximately the size of an orange

WE CAN INFER THAT THE OBJECT IS:

- white
- made of leather
- would hurt us if we were hit with it

TEACHER TIP

- Discuss with students the difference between drawing inferences and making guesses. For example, if the item in the box were a notebook, students could infer that there are words written in it, but they could only guess what the words are.

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